

Please amend the claims as shown in the following listing of claims:

Listing of Claims:

1. (Currently amended) A chiral nematic liquid crystal display, comprising:

a) a layer of chiral nematic liquid crystal display material located between first and second substrates, said material including focal conic and reflective planar textures that are stable in an absence of an electric field, said second substrate being closer to a viewer of the display than said first substrate;

b) drive electronics that electrically address regions of the liquid crystal material effective to cause said liquid crystal material to exhibit the focal conic and planar textures so as to form an image that is seen by a viewer of the display;

b) c) an ambidextrous a bi-directional circular polarizer having opposing sides, wherein said bi-directional circular polarizer circularly polarizes light incident from either of said opposing sides including passing circularly polarized light to said layer of chiral nematic liquid crystal material located adjacent to said first substrate;

c) d) a transreflector having a light reflective side and a light transmitting side, the light reflective side being adapted to reflect light received from said bi-directional circular polarizer, said bi-directional circular polarizer being located between said transreflector and said first substrate first side adjacent to said polarizer and a second side; and

d) e) a light source that is selectively energizable to emit light, said light passing through said transreflector from said light transmitting side toward said light reflecting side adjacent to said second side.

2. (Original) The liquid crystal display of claim 1 wherein said planar texture has a circular polarization of a predetermined handedness.

3. (Cancelled).

4. (Currently amended) The liquid crystal display of claim 1 wherein said ~~ambidextrous~~ bi-directional circular polarizer comprises a first quarter wave retarder and a second quarter wave retarder and a linear polarizer located between said first quarter wave retarder and said second quarter wave retarder.

5. (Original) The liquid crystal display of claim 1 further comprising an alignment material on at least one of said first and second substrates.

6. (Original) The liquid crystal display of claim 5 wherein said alignment material has a pretilt angle of about 21° from the substrate.

7. (Original) The liquid crystal display of claim 5 wherein light reflected from said display has an S3 stokes parameter greater than 0.75.

8. (Original) The liquid crystal display of claim 5 wherein light reflected from said display has an S3 stokes parameter greater than 0.90.

9. (Original) The liquid crystal display of claim 1 further comprising a rubbed alignment material on both of said first and second substrates.

10. (Original) The liquid crystal display of claim 1 further comprising a rubbed alignment material on said first substrate.

11. (Original) The liquid crystal display of claim 1 wherein said light source has a spectral distribution that matches a reflection spectrum of the display.

12. (Currently amended) A chiral nematic liquid crystal display, comprising:
a) a chiral nematic liquid crystal display material located between first and second substrates, said material including a planar texture having a circular polarization

of a predetermined handedness and a focal conic texture that are stable in an absence of an electric field, said second substrate being closer to a viewer of the display than said first substrate;

- b) drive electronics that electrically address regions of the liquid crystal material effective to cause said liquid crystal material to exhibit the focal conic and planar textures so as to form an image that is seen by a viewer of the display;
- b) c) a first quarter wave retarder located adjacent to said first substrate;
- d) a second quarter wave retarder;
- e) e) a linear polarizer located between said first quarter waver retarder and said second quarter wave retarder —adjacent to said first quarter wave retarder;
- d) — a second quarter wave retarder located adjacent to said linear polarizer;
- e) f) a transreflector having a reflective side adjacent to said second quarter wave retarder and a light transmitting side, the light reflective side being adapted to reflect light received from said second quarter wave retarder, wherein said first quarter wave retarder, said linear polarizer and said second quarter wave retarder are located between said transreflector and said first substrate; and
- f) g) a light source adjacent to said transmitting side, said light source being that is selectively energizeable energizable to emit light through said transreflector, said light passing through said transreflector from said light transmitting side toward said light reflecting side.

13. (Original) The liquid crystal display of claim 12 wherein said light source has a spectral distribution that matches a reflection spectrum of the display.

14. (Original) The liquid crystal display of claim 12 further comprising an alignment material on at least one of said first and second substrates.

15. (Original) The liquid crystal display of claim 14 wherein said alignment material has a pretilt angle of about 21° from the substrate.

16. (Original) The liquid crystal display of claim 14 wherein light reflected from said display has an S3 stokes parameter greater than 0.75.

17. (Original) The liquid crystal display of claim 14 wherein light reflected from said display has an S3 stokes parameter greater than 0.90.

18. (Currently amended) The liquid crystal display of claim 12 further comprising a rubbed alignment material on at both of said first and second substrates.

Claims 19 - 25 (Cancelled).

26. (Currently amended) A chiral nematic liquid crystal display, comprising:

a) a chiral nematic liquid crystal display material located between first and second substrates, said material including focal conic and reflective planar textures that are stable in an absence of an electric field, wherein said liquid crystal material reflects light from said display that has an S3 stokes parameter greater than 0.75 [(.]) .said second substrate being closer to a viewer of the display than said first substrate;

b) drive electronics that electrically address regions of the liquid crystal material effective to cause said liquid crystal material to exhibit the focal conic and planar textures so as to form an image that is seen by a viewer of the display;

b) c) an ambidextrous a bi-directional circular polarizer having opposing sides, wherein said bi-directional circular polarizer circularly polarizes light incident from either of said opposing sides including passing circularly polarized light to said layer of chiral nematic liquid crystal material located adjacent to said first substrate;

e) d) a transreflector having a light reflective side and a light transmitting side, the light reflective side being adapted to reflect light received from said bi-directional circular

polarizer, said bi-directional circular polarizer being located between said transreflector and said first substrate first side adjacent to said polarizer and a second side; and

~~e) a light source that is selectively energizable to emit light, said light passing through said transreflector from said light transmitting side toward said light reflecting side adjacent to said second side.~~

Claims 27 - 34 (Cancelled).

35. (Currently amended) A liquid crystal display device, comprising:

 a layer of chiral nematic liquid crystal display material including focal conic and reflective planar textures that are stable in an absence of an electric field, said layer having a first side and a second side, the second side being closer to a viewer of the display device than said second first side;

 means for selectively addressing regions of the liquid crystal material effective to cause said liquid crystal material to exhibit the focal conic and reflective planar textures resulting in an image that can be seen by the viewer of the display device;

an ambidextrous a bi-directional circular polarizer comprising a first quarter wave retarder ~~located adjacent to said first side of said liquid crystal layer~~, a second quarter wave retarder and a linear polarizer located between said first quarter wave retarder and said second quarter wave retarder;

 a transreflector having a light reflective side ~~adjacent to said second quarter wave retarder~~ and a light transmitting side, said bi-directional circular polarizer being located between said transreflector and said first side of said chiral nematic liquid crystal material, the light reflective side being adapted to reflect light traveling received from said bi-directional circular polarizer; and

a light source adjacent to the light transmitting side, wherein said light source that is selectively energizable to emit light, said light passing through said transreflector from said light transmitting side toward said light reflecting side and said

~~transflector is adapted to enable said emitted light to pass from said light transmitting side therethrough toward said circular polarizer.~~

36. (Previously presented) The liquid crystal display device of claim 35 further comprising an alignment layer in contact with at least one of said sides of said liquid crystal layer, said alignment layer being effective to orient adjacent molecules of said liquid crystal material in a particular direction.

37. (Previously presented) The liquid crystal display device of claim 35 wherein said molecules of liquid crystal material are oriented effective to enable light reflected from said display to have an S3 stokes parameter greater than 0.75.

38. (Previously presented) The liquid crystal display device of claim 35 wherein said molecules of said liquid crystal material are oriented effective to enable light reflected from said display to have an S3 stokes parameter greater than 0.90.

39. (Previously presented) The liquid crystal display device of claim 35 further comprising stacked layers of said chiral nematic liquid crystal material.

40. (Previously presented) The liquid crystal display device of claim 39 wherein one of said stacked layers of said chiral nematic liquid crystal material is selected to have a pitch length effective to reflect visible light of one color and another of said stacked layers of said chiral nematic liquid crystal material is selected to have a pitch length effective to reflect visible light of a different color.

41. (Previously presented) The liquid crystal display device of claim 39 comprising a triple stack of said liquid crystal layers, wherein one of said layers reflects red light, one of said layers reflects green light and one of said layers reflects blue light.

42. (Previously presented) The liquid crystal display device of claim 39 wherein one of said stacked layers of said chiral nematic liquid crystal material is selected to have a pitch length effective to reflect visible light of one color and another of said stacked layers of said chiral nematic liquid crystal material is selected to have a pitch length effective to reflect infrared electromagnetic radiation.

43. (Previously presented) The liquid crystal display device of claim 35 wherein said means for selectively addressing regions of the liquid crystal material comprises drive electronics that electrically address regions of the liquid crystal material effective to cause said liquid crystal material to exhibit the focal conic and planar textures so as to form an image that is seen by the viewer of the display device.

44. (New) A liquid crystal display comprising:

a layer of chiral nematic liquid crystal display material including focal conic and reflective planar textures that are stable in an absence of an electric field, said layer having a first side and a second side, the second side being closer to a viewer of the display than the first side;

drive electronics that electrically address regions of the liquid crystal material effective to cause said liquid crystal material to exhibit the focal conic and planar textures so as to form an image that is seen by the viewer of the display;

a bi-directional circular polarizer having opposing sides, wherein said bi-directional circular polarizer circularly polarizes light incident from either of said opposing sides including passing circularly polarized light to said layer of chiral nematic liquid crystal material;

a transreflector having a light reflective side and a light transmitting side, said bi-directional circular polarizer being located between said transreflector and said first side of said layer of chiral nematic liquid crystal material, the light reflective side being adapted to reflect light received from said bi-directional circular polarizer; and

a light source that is selectively energizable to emit light, said light passing through said transreflector from said light transmitting side toward said light reflecting side.

45. (New) A liquid crystal display comprising:

a layer of chiral nematic liquid crystal display material including focal conic and reflective planar textures that are stable in an absence of an electric field, said layer having a first side and a second side, the second side being closer to a viewer of the display than the first side, wherein said liquid crystal material reflects light from said display that has an S3 stokes parameter greater than 0.75;

drive electronics that electrically address regions of the liquid crystal material effective to cause said liquid crystal material to exhibit the focal conic and planar textures so as to form an image that is seen by the viewer of the display;

a bi-directional circular polarizer having opposing sides, wherein said bi-directional circular polarizer circularly polarizes light incident from either of said opposing sides including passing circularly polarized light to said layer of chiral nematic liquid crystal material;

a transreflector having a light reflective side and a light transmitting side, said bi-directional circular polarizer being located between said transreflector and said first side of said layer of chiral nematic liquid crystal material, the light reflective side being adapted to reflect light received from said bi-directional circular polarizer; and

a light source that is selectively energizable to emit light, said light passing through said transreflector from said light transmitting side toward said light reflecting side.

46. (New) A liquid crystal display comprising:

a layer of chiral nematic liquid crystal display material including focal conic and reflective planar textures that are stable in an absence of an electric field, said layer having a first side and a second side, the second side being closer to a viewer of the

display than the first side, a substrate having one side in contact with said second side of said layer of chiral nematic liquid crystal display material and another side forming an external surface of said display;

drive electronics that electrically address regions of the liquid crystal material effective to cause said liquid crystal material to exhibit the focal conic and planar textures so as to form an image that is seen by the viewer of the display;

a bi-directional circular polarizer having opposing sides, wherein said bi-directional circular polarizer circularly polarizes light incident from either of said opposing sides including passing circularly polarized light to said layer of chiral nematic liquid crystal material;

a transreflector having a light reflective side and a light transmitting side, said bi-directional circular polarizer being located between said transreflector and said chiral nematic liquid crystal material, the light reflective side being adapted to reflect light received from said bi-directional circular polarizer; and

a light source that is selectively energizable to emit light, said light passing through said transreflector from said light transmitting side toward said light reflecting side.